

A TRIBUTE TO ROGER NORMAN HILTON (1927–2012)

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Roger Hilton, formerly Senior Lecturer at the Botany Department University of Western Australia, passed away on 20 June 2012 at the age of 85 years. At a wonderful celebration of Roger's life held in Perth we were privileged, among other tributes, to hear a recorded message from his brother Geoffrey Hilton from Warwickshire in the UK. It was almost as if Roger himself was speaking, such was the very distinctive 'rather Roger' accent.

This tribute is predominantly in recognition of Roger's roles in Botany and Mycology in Australia. However, it is clear that he achieved much during the time before he came to Australia in 1964. After he completed his schooling at the Solihull School in Warwickshire, Roger undertook University studies at Cambridge between 1945 and 1948 at Clare College. Just a year ahead of him at the same college was one David Attenborough. After graduation Roger was employed by the Rubber Research Institute of Malaya as a plant pathologist taking up his appointment on 6 Sept. 1948 where he continued until 3 July 1964.

There he focussed on fungal diseases of plantation rubber trees *Hevea brasiliensis*, and in 1959 a major publication from his work was published entitled 'Maladies of Hevea in Malaya'. Roger had been a plant pathologist with the Rubber Research Institute for just 18 months when he was temporarily seconded in 1950 to work in the Malayan Security Forces. His task was to lead a team, often escorted by military jungle squads, registering the occupants of illegal dwellings, with a view to their subsequent resettlement. As an insight into Roger's varied work in Malaya, here is a quote from a letter, from the head of the executive branch of the government in the state of Selangor, to him on his leaving:

*'On behalf of the State of Selangor
I wish to thank you for your great
services as a Settlement Officer
You have completed the first stage
of the settlement of Semeniyih
where the squatters were reported
to be hostile but you managed to
smooth out all difficulties and
bring in the people by skilful use
of tact. You have also engaged in
fairly dangerous work in the*

Dengkil area. We wish you could have remained with us longer and would welcome your services again if we could obtain it.'

In 1964, Roger left Malaya to join the staff of the Botany Department of the University of Western Australia (UWA). This coincided with an era of academic expansion when Medicine still followed the classical idea that doctors needed to know something about plants and especially those of medicinal value. Roger was the third new Lecturer appointment made between 1962 and 1964 by Professor Grieve, then Professor and Head of the Botany Dept., along with four part-time Graduate Assistants who helped in the laboratory classes.

Among the greatest legacies from Roger's roles in Botany and Mycology in Australia was the impact of his undergraduate teachings at the University of WA Botany Department from 1964 to 1987. This impact is emphasised by the vast number of former UWA students who fondly remember Roger as an enthusiastic teacher who performed some rather dramatic demonstrations in the old UWA lecture theatres. Roger taught a series of introductory lectures in Plant Anatomy to the 1st year students Botany 100. The lecture that really became a signature one was about anomalous forms of tree-like structures and the highlight was the banana plant of which the 'stem' is actually a series of overlapping leaf bases.



Roger Hilton often used skilled showmanship to engage the attention of students, such as when he demonstrated the anatomy of plants to 1st year UWA Botany students by suddenly pulling out a machete and decapitating a banana plant.

To illustrate, Roger would have a large banana plant erected in front of the lecture bench and at the appropriate moment he would suddenly pull out a machete hidden in the lectern and with a flourish slice through this 'stem' decapitating it to thunderous applause and enormous acclaim. It was a lesson in Botany the students never forgot.

Roger's mycology course to the 2nd year students in Botany 200

focussed on systematic mycology. The entire Fungi Kingdom was explored based on various editions of the classical textbook by Alexopolous and Mims — *Introductory Mycology*. The practical mycology course in Botany 200 had two main objectives: (1) teaching students to find their way about the unfamiliar (to them) Fungal Kingdom and (2) teaching students how to handle fungi, especially maintaining them in a living state. Roger believed that fungi are best studied living or at least fresh. The practicals involved activities ranging from basic pure culture techniques to collecting, identifying and describing a macrofungus species and submitting a detailed report on that fungus.

In Roger's 2nd year mycology course, he once again showed students how he could develop a storyline and get his message across with some skilled showmanship. Most memorable may have been when he gave a demonstration of the release of spores from fungi using a bamboo blowpipe and darts. The students were overjoyed to see those darts piercing into the wooden-panelled wall of the decrepit old Chemistry lecture theatre.

Roger's mycology course to the 3rd year students in Botany 300 included general mycology practicals consisting of three taxonomic/physiological studies, each of several weeks duration. This included activities such as

conducting experiments on the response of fungi to growth factors such as temperature, light and mineral nutrition, and identifying moulds from various contaminated material by using guide books such as *Illustrated Genera of Imperfect Fungi* 1972 by Barnett and Hunter.

Roger strongly promoted the need for field experience as an integral part of any mycology course. His fungal forays were a part of the annual field camps when the Botany Department took all its 2nd and 3rd students to some location in the south west for an intensive week of field-based exercises. On some occasions students who were struggling with the complexities of field identification and Latin names would excitedly approach Roger with a specimen in-hand that the student believed to be a new undiscovered species. Roger would ever so gently explain to the student that '*actually this is probably not a new fungus but actually someone's discarded orange peel*'.

To this very day, such stories are recalled time and time again by former students, many of whom went on to professions outside Botany, such as medicine, but still vividly recall Roger's showmanship. One letter kept by Roger from one of these 1st year medical students, concludes as such: '*... although not continuing with botany I feel sure the interest you have stimulated will never be completely lost*'.

Roger taught a significant number of students from the Asian region, particularly Malaya, Singapore, Indonesia and Thailand who came to the University. Many of those who came to Botany hoped to get jobs with the Rubber Institute on their return. Roger's experience with the Rubber Institute, his familiarity and delight in South-east Asian people, their culture and cuisine was a hugely important point of connection for these students.

While undergraduate teaching was a core component of his role in the Botany Department, Roger also undertook a research role. He corresponded by letter (there was no email in Roger's work era) with numerous overseas and Australian colleagues. His correspondence perhaps reached its maximum during the 1970s. Roger had his letters neatly typed up by the Botany Department's secretary. In contrast, the replies he received were often hand-written and sometimes they were so illegible, especially from Dr Roy Watling, that Roger found it necessary to have some of the replies from his colleagues deciphered as best he could and then typed up by the secretary. Correspondence with overseas colleagues during this period included with: C. Bas and R.A. Maas Geesteranus from The Netherlands about WA specimens of *Amanita*; D.N. Pegler Kew about *Polyporus* and other fungi; R. Watling Edinburgh on boletes and other fungi; D.A. Reid Kew

about some of the fungi found during Reid's trip to Australia in 1976; E. Horak Switzerland about various local fungi; S. Sunhede Sweden about *Geastrum*; and D.M. Dring Kew about *Ileodictyon*. Correspondence with Australian colleagues during the 1970s included: G.A. Kile Hobart, Tasmania about the identity and increasing prevalence of *Armillaria* at Kings Park in Perth; J.C. Shepherd Canberra about various fungi; P. Christensen about the truffle diet of woylies in south west WA; K.F. Kenneally and A.S. George WA Herbarium about fungi from the Kimberley; and a single 1975 memo Roger sent to J. Gentili UWA Geography Dept. about '*the urgency to get records of the Mycology Herbarium at UWA on to punch cards so that one can draw up a list from any specified geographical area or plant association*'.

During the period 1965 to 1976, N.E.M. Walters Melbourne, Victoria identified many Western Australian specimens of wood-inhabiting fungi that Roger sent to him. Roger also exchanged many fungi specimens with J.E.C. Aberdeen Indooroopilly, Queensland, and in 1973 during and after they met at an ANZAAS conference they discussed collaborating on the production of a checklist of Australian macro-fungi. That same year Roger's correspondence with P.H. Talbot Glen Osmond, South Australia centred on the same theme. e.g. Talbot wrote to Roger in March 1973:

'I think that a mycological Flora *Australiensis* would be quite impossible for a long time to come. – there are not enough people to tackle it and there is a formidable amount of ground-work to be done before it could even be contemplated. ... What we badly need is a properly documented list of Australian fungi saprophytes as well as parasites'.

Roger corresponded with many additional colleagues during the 1980s. Overseas colleagues included: Orson K. Miller Jr Virginia, USA about various fungi and Miller's visits to WA in 1981 and 1989; G. Thorn Ontario, Canada about *Hohenbuehelia* and its nematode-feeding anamorph; P.K. Buchanan Auckland, New Zealand about the identity of WA polypores; J.M. Trappe and M.A. Castellano Oregon, USA about Australian truffles; and P. Dhitaphichit Thailand about Thai ethnomycology (see Hilton & Dhitaphichit, 1993). Australian colleagues included: G.W. Beaton Eildon, Victoria about truffles and Ascomycetes; A.M. Young Blacktown, NSW then Blackbutt, Queensland about various WA fungi; G.M. Weste Melbourne, Victoria about truffles; J. Walker Rydalmere, New South Wales about smuts and leaf-spot fungi; M.J. Priest Rydalmere then Orange, NSW about *Pisolithus*; G.A. Crichton Croydon, Victoria about *Calostoma*; R.G. Shivas Perth, Western Australia about fungi of Christmas Island; C.A. Grgurinovic Adelaide, South

Australia about various fungi; and T.W. May Melbourne, Victoria about *Laccaria* and *Dermocybe*.

Over the years Roger supervised some six Honours students and six MSc/PhD students. He expanded the UWA Mycology Herbarium that had been established some years earlier by his predecessor E.R.L. 'Ruth' Johnson. He ensured that the collection was correctly ordered and available to research students and visiting overseas mycologists. The herbarium was located in room 2.06 on the top floor of the Botany Department building at UWA. All vouchers of fungi were stored on open and glass-fronted shelves of wooden cupboards, and they were arranged in accordance with the classification of Ainsworth, Sparrow and Sussman eds. volumes IVA & B of *The Fungi* 1973. The dried fungi vouchers were kept in 95 long flat white boxes. Pickled specimens in jars were kept in 16 shoe boxes. After Roger's retirement the UWA Mycology Herbarium was transferred to the Western Australian Herbarium at Kensington in 1988, where it is now fully integrated with the PERTH collection. At the time of transfer, the UWA Mycology Herbarium held almost 3,000 vouchers. A total of 2,782 records designated with a UWA origin are currently held at the WA Herbarium.

Roger produced the most substantial census of Western

Australia's macrofungi to date, and this census continues to provide an invaluable basis for assessing the current knowledge base about Western Australia's macrofungi. His census included a total of 504 taxa and was published in two parts (Hilton 1982; 1988a). Significantly, the *Hilton census* was based entirely on citable herbarium specimens – mostly housed at the time at either UWA or at the WA Herbarium (PERTH).

Roger diligently spent considerable time and effort tracing and deciphering the fungi collections of 19th century pioneer botanical collectors in Western Australia. In particular, he studied the collections of James Drummond and Johann August Ludwig Preiss, and undertook visits to Kew and other European herbaria to chase up the location and details of their specimens. This work culminated in two journal papers about those historical collections (Hilton 1983; 1988b).

Roger also did a lot of his own collecting of fungi, and in 1977 was involved in discovering 'the ghoul fungus' *Hebeloma aminophilum* so-named because of its association with decaying animal bodies (Hilton, 1978; Miller & Hilton, 1987). He hosted field expeditions with a number of mycologists from overseas who made visits to WA, and he sent many fungi specimens to them for study. These visitors included: Orson K. Miller Jr from the USA, Derek Reid and Roy

Watling from UK, Jasper Daams from the Netherlands, and Egon Horak from Switzerland. During his career Roger co-authored some new species of Australian macrofungi: *Cortinarius phalarus* Bougher & R.N. Hilton published in 1989; *Hebeloma aminophilum* R.N. Hilton & O.K. Mill., 1987; *Inocybe fibrillosibrunnea* O.K. Mill. & R.N. Hilton, 1987; *Lactarius eucalypti* O.K. Mill. & R.N. Hilton, 1987; *Rubinoboletus phaseolisporus* T.H. Li, R.N. Hilton, & Watling, 1999; and *Russula clelandii* O.K. Mill. & R.N. Hilton, 1987. In 1980, Roger co-authored the recombination from *Agaricus* of the distinctive species *Amanita xanthocephala* Berk. D.A. Reid & R.N. Hilton. The fungus *Amanita hiltonii* D.A. Reid was named in honour of Roger in 1978.

Roger shared his extensive knowledge of fungi by regularly assisting many people with the identification of specimens. For example, Kevn Griffiths states in the Preface of his 1985 book entitled 'A Field Guide to the Larger Fungi of the Darling Scarp & South West of Western Australia' that his own 'efforts were assisted by much encouragement and advice from Mr Roger Hilton ...', and that he is 'greatly indebted to Roger Hilton for his guidance with this book ... and for his painstaking assistance with the identification of specimens'.

A rather interesting sidelight on Roger's mycological activities was the so-called 'magic mushrooms' and his involvement with these mushrooms at Balingup in

south-western WA. Always good for some humour, Roger got himself involved in 1995 as an honorary performer with the production of a tongue-in-cheek film for SBS entitled 'Fungimentary: The Magic Mushrooms of Balingup' giving a very David Attenborough-like performance. Many people took Roger's performance as a send-up of David, but certainly this was not true. The performance was indeed vintage Roger showmanship, and the similarity to David Attenborough was simply a result of their shared origins and schooling. This documentary is available for viewing on *You Tube*.

Roger retired from the Botany Department and University at the end of 1987. In 1994 he joined the Volunteers group at the Western Australian Herbarium, but several years later he tended his 'resignation' in a letter dated 1 July 1998 to the then Head of the Western Australian Herbarium Neville Marchant a long-term advocate of Mycology writing that:

'Clearly the time has come when every effort should be made to make a professional appointment in the area of systematic mycology. My presence at the Herbarium is giving the illusion to the powers-that-be that fungi are in some way catered for ...'

Much later on, just several weeks before he passed away, Roger angrily expressed his disappointment that an ongoing salaried position for a mycologist at the

Western Australian Herbarium was never created.

In retirement Roger completed a Bachelor of Arts degree and an Honours degree in South East Asian studies at Murdoch University. He joined the Friends of Kings Park in 1988 and continued that involvement until 2009 assisting in the training and mentoring of the 'Friends'. He was President of the Kings Park Guides for 2 years during this period. Roger presented many submissions to the Botanic Gardens and Parks Authority managing agency for Kings Park and Bold Park which influenced their management plans.

While they had been able, Roger and his wife Leila travelled internationally every couple of years during his retirement. In his later years the travels were curtailed as Roger became full-time carer and househusband. Perhaps fittingly, Malaya in 2009 was the last place he visited.

As one of his many former students, inspired by his enthusiastic teachings and mycological studies, I say farewell and thank you to Roger Norman Hilton, a man who always remained very modest of his achievements professionally and personally.

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